

CLAIMS

What is claimed is:

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1. A rotation support of heat dissipation fan comprising:
a hollow ceramic tube bearing, said bearing passes through and fixes on fan rotor and rotating with the rotor;
a hollow ceramic tube support bearing, said bearing fixes on fan base and works as structural support which do not rotate;
a solid or hollow ceramic axle tube, said axle tube is cylindrical shape or with an end flange portion forming a T shape tube, said axle tube passes through the inside of said bearing and said support bearing and rotating asynchronously and slowly with rotor, said axle tube works as structural support to provide multi-point contact rotating support mechanism; and,
a ceramic holding ring with opening gap, said ring limits the axial movement of said axle tube.
2. The rotation support of heat-dissipation fan as defined in claim 1, wherein said bearing and said support bearing are hollow ceramic tube, the exterior of said bearing and support bearing are formed or ground to concave surface with smaller outer diameter or non-circular shape or concave groove shape to provide a solid connection with fan rotor body.
3. The rotation support of heat-dissipation fan as defined in claim 1, wherein said bearing and said support bearing are hollow ceramic tube, the interior of said bearing and support bearing are formed or ground with concave grooves to reduce surface contact thereof friction among said bearing, said support

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bearing and said axle tube.

4. The rotation support of heat-dissipation fan as defined in claim 1, wherein said axle tube passes through the inside of said bearing and said support bearing and rotating asynchronously with fan rotor; said axle tube is solid or hollow ceramic tube with cylindrical shape or with an end flange portion forming a T shape, the exterior of said axle tube is formed or ground with concave grooves or with non-circular shape to reduce surface contact thereof friction between said bearing, said support bearing and said axle tube.
5. The rotation support of heat-dissipation fan as defined in claim 1, wherein said ring is ceramic ring with opening gap, the inner diameter of said ring is equal or smaller than outer diameter of said axle tube and installed at one end or both ends of said axle tube.
6. A rotation support of heat dissipation fan comprising:
a hollow ceramic tube bearing, said bearing passes through and fixes on fan rotor and rotating with the rotor;
a solid or hollow ceramic axle tube, said axle tube is cylindrical shape or with an end flange portion forming a T shape tube, said axle tube passes through the inside of said bearing and fixes on fan base working as structural support to provide multi-point contact rotating support mechanism; and,
a ceramic holding ring with opening gap, said ring limits the axial movement of said axle tube.
7. The rotation support of heat-dissipation fan as defined in claim 6, wherein said axle tube fixes on fan base and does not rotate; said axle tube is solid or

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hollow ceramic tube with cylindrical shape or with an end flange portion forming a T shape, the exterior of said axle tube is formed or ground with concave grooves or with non-circular shape to reduce surface contact thereof friction between said bearing, said support bearing and said axle tube.

8. A rotation support of heat dissipation fan comprising:

a pair of ceramic hollow tube bearings, said bearings pass through and fix on rotor upper body and rotor lower body respectively and rotating with the rotor;

a hollow ceramic axle tube, said axle tube passes through the inside of both said bearing and connects the center of front and rear fan body support frame; said axle tube does not rotate and works as structural support to provide multi-point contact rotating support mechanism;

a pair of ceramic holding ring with opening gap, said ring limits the axial movement of said axle tube; and,

an opening slot on said axle tube, said opening slot works as internal electrical connection point between fan coil/electronic control circuit board and external power source.

9. The rotation support of heat-dissipation fan as defined in claim 8, wherein said axle tube fixes and connects the center of front and rear fan body support frame; fan coil/electronic control circuit board fixes on said axle tube and external power source is connected thru said opening slot on said axle tube; said axle tube is hollow ceramic tube and the exterior of said axle tube is formed or ground with concave grooves or with non-circular shape to reduce surface contact thereof friction between said bearing, said support bearing and

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10. The rotation support of heat-dissipation fan as defined in claim 8, wherein fan rotor upper and lower bodies form a closed area where said rotation support structure of heat-dissipation fan and fan coil/electronic control circuit board are kept inside, preventing dust and particles accumulation.

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